HELLER EHRMAN WHITE & MCAULIFFE LLP
Sheet 1 of 8

Title: METHODS FOR THE PRODUCTION OF REDOX
PROTEINS.

Applicant: van Rooijen et al.
Serial No. 10/032,201 Filed: December 19, 2001
Our Docket No.: 38814-351B

TR ATGAATGGTCTCGAAACTCACAACACAAGGCTCTGTATCGTA	
ATTHIREDB ATGAATGGTCTCGAAACTCACAACACAAGGCTCTGTATCGTA	GGAAGTGGCCCAGCGGCA
70 80 90 100	110 120
TR CACACGGCGGCGATTTACGCAGCTAGGGCTGAACTTAAACCTATHIREDBCACACGGCGGCGATTTACGCAGCTAGGGCTGAACTTAAACCT	CTTCTCTTCGAAGGATGG CTTCTCTTCGAAGGATGG
130 140 150 160	170 180
TR ATGCCTAACGACATCGCTCCCGGTGGTCAACTAACCACCACC	A CCG ACGTCGAGAATTC
ATTHIREDB ATGGCTAACGACATCGCTCCCGGTGGTCAACT] CAACCA A C	JC ACCC GC G T - (G A G A A T T T C)
190 200 210 220 TR CCCGGATTTCCAGAAGGTATTCTCGGAGTAGAGCTCACTGAC	230 240 AAATTCCGTAAACAATCG
ATTHIREDS CCCGGATTTCCAGAAGGTATTCTCGGAGTAGAGCTCACTGAC	
250 260 270 280	290 300
TR GAGCGATTCGGTACTACGATATTTACAGAGACGGTGACGAAA ATTHIREDBGAGCGATTCGGTACTACGATATTTACAGAGACGGTGACGAAA	
310 320 330 340 TR CCGTTTAAGCTATTCACAGATTCAAAAGCCATTCTCGCTGAC	350 360 GCTGTGATTCTCGCTACT
ATTHIREDB C C G T T T A A G C T A T T C A C A G A T T C A A A A G C C A T T C T C G C T G A C	GCTGTGATTCTCGCTATC
370 380 390 400	410 420
TR GGAGCTGTGGCTAAGCGGCTTAGCTTCGTTGGATCTGGTAAATTHIREDBGGGAGCTGTGGCTAAGTGGCTTAGCTTCGTTGGATCTGGTAAA	
TR ACCGTGGAATCTCCGCTTGTGCTGTTTTGCGACGGAGCTGCT	470 480 CCGATATTCCGTAACAAA
ATTHIREDB A A C C G T G G A A T C T C C G C T T G T G C T G T T T G C G A C G G A G C T G C T	CCGATATTCCGCAACAAA
TR CCTCTTGCGGTGATCGGTGGAGGCGATTCLAGCAATGGAAGAA	530 540
TR CCTCTTGCGGTGATCGGTGAGGCGATTCAGCAATGGAAGAA ATTHIREDB CCTCTTGCGGTGATCGGTGGAGGCGATTCTGCAATGGAAGAA	
550 560 570 580	590 600
TR TATGGATCTAAAGTGTATATAATCCATAGGAGAGATGCTTTT	AGAGCGTCTAAGATTATG
ATTHIREDB TATGGATCTAAAGTGTATATAATC]GATAGGAGAGATGCTTTT	AGAGCGTCTAAGATTATG
610 620 630 640 TR CAGCAGCGAGCTTTGTCTAATCCTAAGATTGATGTGATTTGG	650 660
ATTHIREDB CAGCAGCGAGCTTTGTCTAATCCTAAGATTGATGTGATTTGG	
670680690 700	710 720
TR GCTTATGGAGATGGAGAAGAGATGTGCTTGGAGATTGAAA ATTHIREDB GCTTATGGAGATTGAAA	GTGAAGAATGTGGTTACC
730 740 750 760 TR G G A G A T G T T T C T G A T T T A A A A G T T T C T G G A T T G T T C T T T G C T	770 780
ATTHIREDB G G A G A T G T T T C T G A T T T A A A A G T T T C T G G A T T G T T C T T T G C T	ATTGGTCATGAGCCAGCT
790 800 810 820	830 840
TR A C C A A G T T T T T G G A T G G T G T T G T T G A G T T A G A T T C G G A T G G T ATTHIREDB A C C A A G T T T T T T G G A T G G T G T T G A G T T A G A T T C G G A T G G T	TATGTTGTCACGAAGCCT
850 860 870 880 TR GGTACTACACAGACTAGCGTTCCCGGAGTTTTCGCTGCGGGT	690 900 G A T G T T C A G G A T A A G A A G
ATTHIREDB G G T A C T A C A C A G A C T A G C G T T C C C G G A G T T T T C G C T G C G G G T	GATGTTCAGGATAAGAAG
910 920 930 940	950 960
TR TATAGGCAAGCCATCACTGCTGCAGGAACTGGGTGCATGGCA ATTHIREDB TATAGGCAAGCCATCACTGCTGCAGGAACTGGGTGCATGGCA	
970 980 990 1000	1010 1020
TR TACTTACAAGAGATTGGATCTCAGCAAGGTAAGAGTGATTGA	1020
ATTHIREDB TACTTACAAGAGATTGGATCTCAGCAAGGTAAGAGTGATTGA	İ

FIG. I

	۵,	۲
	ы	H
	α	H
ſ	z	E
	H	ᆈ
င္က	o	0
۱, ۱	O	υ
	Ģ	0
	Д	۵
	K	4
	H	н
	Ω	
	z	z
	K	A
	Σ	Σ
64	≥	3
	_	
	ĮΞÌ	F
	I F	1
	_	3
	I	
	2	<u>⊼</u>
	_	3
	ш	ы
0	A	Æ
3	R	æ
	4	A
	TAAIYAARAELKPL	A
	>-	\rightarrow
	Н	н
	4	⋖
	4	A
	H	₽
	AAH	×
02	4	∢
• • •	4	Æ
	GP	ы
	ဗ	O
	S	S
	S	0
	~	> I
	LCIVGS	
		7
0	~	2
≒	£	F
	z	z
	E	H
	E	ы
	ω	ш
	-	괴
	O	0
	z	z
	Σ	Σ
	8	_
	圆	

the state of the s

TŲ The state of the s

greek worst. "H Heros obes entite H H court H throw to A most H Smit them rette excel that there

ा म	онь	o 본 포	निन०	○ <u>K</u> ★	0
60 E N F E N F	L A I	180 L T K	240 V V T V V T	300 X X X	360
- D	V I	14 14 2 2	XX	>>	
7. 7. 7. 7. 7. 7.	A D A A D A	э э э э В В	L K V	A G D	
Z T T	1 1 1 1	A A M M	0 0	FA	
0 0 0	110 K A K A	170 D S D S	230 V L V L	290 G V G V	350
ט ט	S Q	0 0	R R D D	> > P P	
DIA	7 7 7 7 F F	0 I V	D G E	S E E	
N N	다 다 ㅈ ㅈ	LLA	7 X	F F	
40 W W W M	100 S K P S K P	160 N K P	220 Y E A Y E A	280 K P G	340
ក ក គ	F S S	F R N	S < Y	2 T V T X	m
1 1 1 1	> > D D	H H	S S	7 V 7 V	
X X 9 9	H H	AAA	M M	D C	ΩΩ
30 A E L	90 E T V	0 0 0 0 0	0 I D V	0 L D S	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
A R R	F F F	15 A V	210 P K I P K I	270 V E L	330
K K	ITT	S & C	L S N	0 0 0	S S
A A I	F F G F	0 U	R A I	77	ы Э О
H H	ы В В	Z Z Z Z	0 0 0 0	F F X	7 7 7 7
20 P A A P A A	80 K Q S	© 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	200 K I M K I M	260 E P A	320 A E H A E H
ა ა ი ი	F F R	1 S G	A S S	ж ж 0 0	1 1 D D
ა ა 	D D K	о О О О	7 T R	FAI	4 A A
101	E L 1	လ လ	R D P	7 7 F F	Σ Σ U U U U
10 T R T	0 7 0 0 V	130 LSFVG LSFVG	190 H R	250 S G S G	310 G T
10 THNTRLCIV THNTRLCIV	1 1	R L S	1 1 3	7 7 X X	T A A
3 3	9 P	A A K	> >	S D	AAI
M N G L E	70 PGFPEGILGVELT PGFPEGILGVELT	130 G A V A K W L S F V G G A V A K R L S F V G	190 YGSKVYIIDRRDA YGSKVYIIHRRDA	250 G D V S D L K V S G L F G D V S D L K V S G L F	310 Y R Q A I T A A G T Y R Q A I T A A G T
(EDB)	EDB [1	EDB [G	EDB []	(EDB [0	EDB (
TTHIR R	TTHIE	TTHIF	TTHIF	TTHIF	TTHIF
of A of T	of A of T	of A of T	of A of T	of A of T	of A
ition ition	tion tion	tion tion	ution ution	ation ation	ation
Translation of ATTHIREDB M N G L E T H N T R L C I V Translation of TR M N G L E T H N T R L C I V	70 Translation of ATTHIREDB PGFPEGILGVELTD Translation of TR	Translation of ATTHIREDB G A V A K W Translation of TR	Translation of ATTHIREDB Y G S K V Y I Translation of TR	250 Translation of ATTHIREDB G D V S D L K V S G L F Translation of TR	310 Translation of ATTHIREDB Y R Q A I T A A G T G C M Translation of TR
77.	17 17	Tr	īŢ	11 11	ĘĘ

ļ 11 C.J if and The state ļ=b ##

Fig. ğ ok n and shall TU

SO Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	VESVSL VIKVDE	150 <u>G</u> R G <u>V</u> S A <u>N</u> R G <u>I</u> S A	200 R D E F R A R D A F R A	$\begin{array}{c c} 250 \\ \hline G & \underline{B} & \underline{\underline{T}} & \underline{\underline{T}} & \underline{\underline{L}} \\ \hline G & \underline{\underline{D}} & \underline{\underline{V}} & \underline{\underline{S}} & \underline{\underline{D}} & \underline{\underline{L}} \end{array}$	300 F A A G D <u>L</u> F A A G D <u>V</u>	350 DSTDTT DSTDTT	400 D F W A T W D F T A S W	450 P T M I L F P T F M F L	200
40 LVFBG LLFBGWM	PE TELE	140 E G S G G F W	$\begin{array}{c} 190 \\ \underline{S} \ V \\ \underline{Y} \ \underline{L} \ \underline{L} \ H \ R \\ \underline{X} \ V \\ \underline{Y} \ \underline{L} \ \underline{L} \ H \ R \\ \end{array}$	$\begin{array}{c c} 240 \\ \hline R & \underline{L} & \underline{R} & \underline{N} & \underline{T} & \underline{T} \\ \hline \underline{K} & \underline{V} & \underline{K} & \underline{N} & \underline{V} & \underline{V} & \underline{T} \end{array}$	$ \begin{array}{c c} 290 \\ \underline{S} & T & \underline{S} & \underline{M} & \underline{D} & \underline{G} & \underline{V} \\ \underline{Q} & T & \underline{S} & \underline{V} & \underline{P} & \underline{G} & \underline{V} \end{array} $	340 TEETGDV TEETGDV	$\frac{390}{\frac{2}{8}} = \frac{\frac{\sqrt{15}}{2}}{\frac{2}{8}} = \frac{\sqrt{15}}{\sqrt{15}} = $	$\begin{array}{c c} 440 \\ \hline E & Q & V & S & I \\ \hline D & M & A & I & Q & A & M \end{array}$	490 FIG. 3
ARAQUTP ARAEUKP	K Q S E R F G	日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日 日	FLTRFA FLT <u>KY</u> GS	$\frac{\mathbf{Y}}{\mathbf{R}} \stackrel{\mathbf{T}}{\mathbf{D}} \frac{\mathbf{T}}{\mathbf{V}} \stackrel{\mathbf{T}}{\mathbf{G}} \stackrel{\mathbf{G}}{\mathbf{L}}$	LVKGRTT VTKPGRTT	GSKANET	V L S S N K A N K A N K B E	T N P E M A S I N A S I	ш
30 Y T A A L Y A H T A A I Y A	BLMDDMR ELTDKFR	$ \begin{array}{c c} \underline{M} & \underline{G} & \underline{T} & \underline{S} & \underline{V} & \underline{R} & \underline{Y} \\ \underline{T} & \underline{G} & \underline{M} & \underline{M} & \underline{K} &$	SAMEEAL SAMEEA	$ \begin{array}{c c} 230 \\ \underline{A} & \underline{V} & \underline{N} & \underline{G} \\ \underline{E} & \underline{A} & \underline{Y} & \underline{G} & \underline{D} & \underline{G} \\ \underline{E} & \underline{A} & \underline{Y} & \underline{G} & \underline{D} & \underline{G} & \underline{E} \end{array} $	280 <u>I</u> D <u>P</u> D G Y V <u>L</u> D <u>S</u> D G Y V	330 <u>R</u> W L A E H A E I A E I A A E I A A E I A A E I A A E I A E I A	1 V E T E I N I E I I I I I I I I I I I I I I I	$\frac{V}{F} \stackrel{A}{\stackrel{L}{\stackrel{L}{\stackrel{L}{\stackrel{L}{\stackrel{L}{\stackrel{L}{\stackrel{L}{$	480 <u>N V P N L N</u> <u>K H L A L N</u>
20 I G S G P A G	$ \begin{array}{c c} 70 \\ \hline P & E & C & I \\ \hline P & E & C & I \\ \hline P & C & V \end{array} $	120 A B A V I L A A D A V I L A	170 AVIGGD AVIGGD	$ \begin{array}{c c} 220 \\ \hline \Gamma \underline{\Gamma} \underline{N} \underline{H} \underline{\Gamma} \underline{V} \underline{V} \\ \hline \Gamma \underline{M} \underline{N} \underline{S} \underline{S} \underline{V} \underline{V} \end{array} $	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	320 A A I D A E M A A L D A E	$\begin{array}{c} 370 \\ \hline G \ \underline{V} \ \underline{T} \ \underline{I} \ \underline{E} \ \underline{V} \ \underline{T} \\ \hline G \ \underline{Q} \ \underline{V} \ \underline{I} \ \underline{A} \ \underline{C} \ \underline{H} \end{array}$	420 E Q R N Q L K L P N C L T	470 A L L R D L S E L Q S T I A
10 T I H B V I V	60 EVENYPGF DVENEPGF	$\begin{array}{c} 110 \\ \hline T & \underline{B} & \underline{G} & \underline{Q} & \underline{T} & \underline{Y} & \underline{Q} \\ \hline T & \underline{D} & \underline{S} & \underline{-} & \underline{K} & \underline{A} & \underline{I} & \underline{L} \end{array}$	160 = F R G Q D I P I F R N K P L	$\begin{array}{c c} 210 \\ \hline R & N & D & K & I & K \\ \hline L & S & N & P & K & I & D & V \\ \hline \end{array}$	260 I G H E P R S S I G H E P A T K	310 I T A A G <u>S</u> G C I T A A G <u>T</u> G C	360 = = = = AKNA G Q V I A C E E	$ \begin{array}{c c} 410 \\ \hline P & L & E & E & I & A \\ \hline F & F & A & D & L & K \end{array} $	460 <u>I</u> V G A K <u>G</u> K <u>D</u>
N T T P S A H E N G L E T H N T	$\frac{A}{Q} \stackrel{\square}{L} \stackrel{\square}{T} \stackrel{\square}{T} \stackrel{\square}{T} $	NINI NINI NINI	D G S O D G A A	G R R A	T G V F V A S G L F F A	R Y R Q A K Y R Q A	STAM <u>F</u> E	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	G G Q P V K R I
M.lep TR/Trxh M.N Arab TR-link-Trxh M.N	M.lep TR/Trxh G G Arab TR-link-Trxh G G	M.lep TR/Trxh Arab TR-link-Trxh <u>s</u>	M.lep TR/Trxh $\stackrel{\hbox{\scriptsize C}}{}$ A $\stackrel{\hbox{\scriptsize T}}{}$ C A $\stackrel{\hbox{\scriptsize T}}{}$ C A $\stackrel{\hbox{\scriptsize L}}{}$ C	M.lep TR/Trxh S K I M L Arab TR-link-Trxh S K I M Q	M.lep TR/Trxh $\frac{V}{V}$ Arab TR-link-Trxh $\frac{V}{K}$ V	M.lep TR/Trxh $\frac{\mathrm{U}}{\mathrm{D}}$ Arab TR-link-Trxh $\underline{\mathrm{Q}}$ D	M.lep TR/Trxh Arab TR-link-Trxh D W	M.lep TR/Trxh Arab TR-link-Trxh C	M.lep TR/Trxh Arab TR-link-Trxh
M.lep Arab T	M.lep Arab T	M.lep Arab T	M.lep Arab T	M.lep Arab T	M.lep Arab T	M.lep Arab T	M.lep Arab T	M.lep Arab T	M.lep Arab T

HELLER EHRMAN WHITE & MCAULIFFE LLP
Sheet 4 of 8
Title: METHODS FOR THE PRODUCTION OF REDOX
PROTEINS.
Applicant: van Rooijen et al.
Serial No. 10/032,201 Filed: December 19, 2001
Our Docket No.: 38814-351B

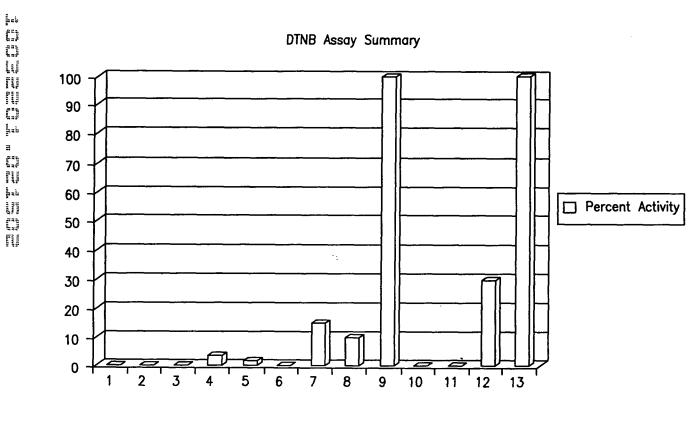


FIG. 4

HELLER EHRMAN WHITE & MCAULIFFE LLP
Sheet 5 of 8

Title: METHODS FOR THE PRODUCTION OF REDOX
PROTEINS.

Applicant: van Rooijen et al.
Serial No. 10/032,201 Filed: December 19, 2001
Our Docket No.: 38814-351B

HETEROMULTIMERS

Class	Heteromultimer	Example sequence reference for
C1433	Hetel olitaitimei	heteromultimeric subunits
Biosynthetic	3-methyl-2-oxobutanoate	McKean, et al. Biochim. Biophys. Acta (1992)
Diocy naicae	dehydrogenase (2-oxoisovalerate	1171:109-112 / Chuang, J.L., et al FEBS Lett. a
	dehydrogenase (lipoamide))- E1	(1990) 262 (2), 305-309.
	component)	(1770) 202 (2), 303-309.
Biosynthetic	3-oxoadipate CoA-transferase	Parales, R.E. and Harwood, S.C. J. Bacteriol. (1992)
		174:4657-4666
Biosynthetic	anthranilate synthase:indole-3-glycerol	Zalkin, H.; et al. J. Biol. Chem. (1984) 259:3985-
	phosphate synthase	3992 .
Biosynthetic	beta-ketoacyl-[acyl carrier protein]	Siggaard-Andersen, M. et al. Proc. Natl. Acad. Sci.
- -	synthase I	U.S.A. (1991) 88:4114-4118
Biosynthetic	butyrateacetoacetate CoA-transferase	Fischer, R.J., et al. J. Bacteriol. (1993) 175 (21),
7		6959-6969.
Biosynthetic	cAMP dependent protein kinase	Mutzel, R et al. Proc. Natl. Acad. Sci. U.S.A. (1987)
		84:6-10./ Burki, E., et al. Gene (1991) 102 (1), 57-
Discount of		65.
Biosynthetic	carbamoyl-phosphate synthase	Shigenobu, S., et al. Nature. (2000) 407 (6800), 81-
Biosynthetic	Creatine kinase	86.
Diosynmenc	Creatine kinase	Billadello, J.J.; et al. Biochem. Biophys. Res. Commun. (1986) 138:392-398. / Roman, D.; et al.
Biosynthetic	gamma-glutamyltransferase (gamma-	Proc. Natl. Acad. Sci. U.S.A. (1985) 82:8394-8398. Papandrikopoulou, A.; et al. Eur. J. Biochem.
Diosynthetic	glutamyl transpeptidase)	(1989) 183:693-698.
Biosynthetic	glutathione transferase	Morrow, C.S. et al. Gene (1989) 75:3-11
Biosynthetic	glycerol-3-phosphate dehydrogenase	Cole, S.T. et al. J. Bacteriol. (1988) 170:2448-2456.
Biosynthetic	guanylate cyclase	Hinsch, K.D. et al. FEBS Lett. (1988) 239:29-34/
2105) 1111040	guany rate cycluse	Koesling, D. et al. FEBS Lett. (1900) 266:128-132.
Biosynthetic	heterodisulfide reductase	Smith, D.R., et al. J. Bacteriol. (1997) 179 (22),
		7135-7155.
Biosynthetic	human cathepsin	Ritonja, A. et al. FEBS Lett. (1988) 228:341-345.
Biosynthetic	Hydrogenase	Menon, N.K. et al. J. Bacteriol. (1990) 172:1969-
		1977.
Biosynthetic	Meprin A	Johnson, G.D. and Hersh, L.B. J. Biol. Chem.
		(1992) 267:13505-13512.
Biosynthetic	methionine adenosyltransferase	Horikawa, S.; Tsukada, K. FEBS Lett. (1992)
		312:37-41.
Biosynthetic	methylmalonyl-CoA mutase	Jackson, C.A. et al. Gene (1995) 167:127-132.
Biosynthetic	mitochondrial processing peptidase	Pollock, R.A. et al. EMBO J. (1988) 7:3493-3500.
Biosynthetic	Na+/K+-exchanging ATPase	Shull, G.E., et al. Biochemistry (1986) 25 (25),
		8125-8132./Mercer,R.W., et al.
		Mol. Cell. Biol. (1986) 6 (11), 3884-3890./
		Mercer, R.W., et al. J. Cell Biol. (1993) 121 (3),
		579-586.
Biosynthetic	NAD(+)-dependent isocitrate	Cupp, J.R. and McAlister-Henn, L. J. Biol. Chem.
	dehydrogenase	(1992) 267:16417-16423. /Cupp, J.R. and
		McAlister-Henn, L.
Discount of		J. Biol. Chem. (1991) 266:22199-22205.
Biosynthetic	phosphoribosylformylglycinamidine	Ebbole, D.J.; Zalkin, H. J. Biol. Chem. (1987)
Discount	synthase	262:8274-8287.
Biosynthetic	protocatechuate 3,4-dioxygenase	Frazee, R.W.; et al. J. Bacteriol. (1993) 175:6194-
Diocembasia	C 100	6202.
Biosynthetic	S-100 protein	Engelkamp, D.; et al. Biochemistry (1992)

FIG. 5A

HELLER EHRMAN WHITE & MCAULIFFE LLP Sheet 6 of 8 Title: METHODS FOR THE PRODUCTION OF REDOX PROTEINS. Applicant: van Rooijen et al.

Applicant: van K					
Serial No. 10/032,	201 F	iled: De	ecember	19,	2001
Our Docket No.:	38814	-351B			

		31:10258-10264. / Allore, R.J.; et al. J. Biol. Chem. (1990) 265:15537-15543.
Biosynthetic	sucrosefructan 6-fructosyltransferase	Sprenger, N.; et al. Proc. Natl. Acad. Sci. U.S.A. (1995) 92:11652-11656.
Biosynthetic	Superoxide dismutase	Capo, C.R.; et al. Biochem. Biophys. Res. Commun. (1990) 173:1186-1193.
Biosynthetic	Urease	Labigne, A.; et al. J. Bacteriol. (1991) 173:1920-1931.
Biosynthetic	urokinase-type plasminogen activator (urokinase)	Belin, D. et al. Eur. J. Biochem. (1985) 148:225-232.
Biosythetic	methylmalonyl-coenzyme A mutase	Birch, A., et al J. Bacteriol. (1993) 175 (11), 3511-3519.
Calcium binding	Calcineurin	Muramatsu, T. and Kincaid, R.L. Biochim. Biophys. Acta (1993) 1178 (1), 117-120 / Guerini, D. et al. DNA (1989) 8:675-682.
Calcium binding	Calgranulin	Imamichi, T. et al. Biochem. Biophys. Res. Commun. (1993) 194:819-825.
Calcium binding	Calpain	Aoki, K. et al. FEBS Lett. (1986) 205:313-317.
DNA binding	AP1	van Straaten, F., et al. Proceedings of the National Academy of Sciences of the United States of America. (1983) 80 (11), 3183-3187. /Hattori, K., et al Proceedings of the National Academy of Sciences of the United States of America. (1988) 85 (23), 9148-9152.
DNA binding	сМус-Мах	Schreiber-Agus, N et al. Mol. Cell. Biol. (1993) 13 (5), 2765-2775.
DNA binding	DNA binding protein HU-1/HU-2	Laine, B. et al. Eur. J. Biochem. (1980) 103:447-461.
DNA binding	hepatic nuclear factor 1	Bach, I. et al. Nucleic Acids Res. (1992) 20 (16), 4199-4204. / Rey-Campos, J. et al. EMBO J. (1991) 10 (6), 1445-1457.
DNA binding	Integration host factor	Miller, H.I. Cold Spring Harbor symposia on quantitative biology. (1984) 49, 691-698. / Flamm, E. and Weisberg, R.A. J. Mol. Biol. (1985) 183:117-128.
DNA binding	Ku	Reeves, W.H. and Sthoeger, Z.M. J. Biol. Chem. (1989) 264 (9), 5047-5052. / J. Biol. Chem. (1989) 264 (23), 13407-13411.
DNA binding	MutS	Bocker et al. 1999. Cancer Research 59, 816-822.
DNA binding	NF-E2	Chan, J.Y. et al Proc. Natl. Acad. Sci. U.S.A. (1993) 90 (23), 11366-11370./ Toki, T., et al. Oncogene (1997) 14 (16), 1901-1910.
DNA binding	nuclear factor kB (NFkB)	Kieran M, et al. Cell. (1990) Sep 7;62(5):1007-18. / Ruben SM, et al. Science (1991) Mar 22;251(5000):1490-3. Erratum in: Science (1991) Oct 4;254(5028):11
Electron transport	corrinoid/iron-sulfur protein	Lu, W.P. et al. J. Biol. Chem. (1993) 268:5605-5614.
Electron transport	cytochrome d ubiquinol oxidase	Green, G.N. et al. J. Biol. Chem. (1988) 263:13138-13143.
Electron transport	cytochrome-c3 hydrogenase	Menon, N.K. et al. J. Bacteriol. (1987) 169:5401-5407.
Electron transport	electron transfer flavoprotein	Finocchiaro, G. et al. Biol. Chem. (1988) 263:15773-15780. / Finocchiaro, G. et al. Eur. J. Biochem. (1993) 213:1003-1008.

FIG. 5B

HELLER EHRMAN WHITE & MCAULIFFE LLP
Sheet 7 of 8
Title: METHODS FOR THE PRODUCTION OF REDOX
PROTEINS.
Applicant: van Rooijen et al.
Serial No. 10/032,201 Filed: December 19, 2001
Our Docket No.: 38814-351B

Electron transport	xylene monooxygenase	Shaw, J.P. and Harayama, S. Eur. J. Biochem.
Procedur manaport	Aylone monooxygonase	(1992) 209:51-61. / Kasai, Y., et al. J. Bacteriol.
		(2001) 183 (22), 6662-6666.
Growth factor	hepatocyte growth factor	Nakamura, T. et al. Nature (1989) 342:440-443.
Growth factor	human chorionic gonadotropin	Morgan, F. J. et al. J. Biol. Chem. (1975) 250 (13),
		5247-5258.
Growth factor	Platelet-derived growth factor	Takimoto, Y., et al. Hiroshima J. Med. Sci. (1993)
		42 (1), 47-52./ Josephs, S.F., et al. Science (1984)
		225 (4662), 636-639.
Hormone	Bombyxin	Adachi, T. et al. J. Biol. Chem. (1989) 264:7681-7685.
Hormone	Follicle stimulating hormone	Fiddes, J.C. and Goodman, H.M. J. Mol. Appl.
	-	Genet. (1981) 1 (1), 3-18. / Watkins, P.C., et al.
		DNA (1987) 6 (3), 205-212.
Hormone	Insulin	Bell,G.I., Pictet,R.L., Rutter,W.J., Cordell,B.,
1		Tischer, E. and Goodman, H.M.
		Sequence of the human insulin gene. Nature. 284
		(5751), 26-32 (1980)
Hormone	Luteinizing Hormone	Fiddes, J.C. and Goodman, H.M. J. Mol. Appl.
		Genet. (1981) 1 (1), 3-18. / Shome, B. and
		Parlow, A.F. J. Clin. Endocrinol. Metab. (1973) 36
		(3), 618-621.
Hormone	Thyroid stimulating hormone	Fiddes, J.C. and Goodman, H.M. J. Mol. Appl.
		Genet. (1981) 1 (1), 3-18. / Hayashizaki Y, et al.
	_	FEBS Lett. (1985) 188 (2), 394-400.
Immune	B-cell antigen receptor complex	Hashimoto, S. et al. J. Immunol. (1993) 150 (2), 491-
		498. / Flaswinkel, H. and Reth, M.
		Immunogenetics (1992) 36 (4), 266-269.
Immune	Cell surface CD8 molecules	Ureta-Vidal, A., et al. Immunogenetics (1999) 49
		(7-8), 718-721.
Immune	human complement subcomponent C1q	Sellar, G.C. et al. Biochem. J. (1991) 274:481-490.
Immune	T cell receptor	Talken, B.L. et al. Scand. J. Immunol. (2001) 54 (1-
		2), 204-210.
Photosynthesis	C-phycocyanin	Offner, G.D. et al. J. Biol. Chem. (1981) 256:12167-
		12175. / Troxler, R.F. et al. J. Biol. Chem. (1981)
		256:12176-12184.
Photosynthesis	ferroredoxin-thioredoxin reductase	Chow, L.P. et al. Eur. J. Biochem. (1995) 231:149-
		156. / Iwadate, H. et al. Eur. J. Biochem. (1994)
		223:465-471.
Photosynthesis	Light harvesting complex I	Proc. Natl. Acad. Sci. U.S.A. (1984) 81, 189-192.
Photosynthetic	cytochrome b559	Carrillo, N. et al. Curr Genet. 1986;10(8):619-24.
Protease	ATP-dependent Clp protease	Gerth, U. et al. Gene (1996) 181:77-83. / Kunst, F.
		et al. Nature (1997) 390 (6657), 249-256.
Receptor	alpha-2-macroglobulin receptor	Strickland, D.K. et al. J. Biol. Chem. (1990)
		265:17401-17404. / Strickland, D.K. et al. J. Biol.
		Chem. (1991) 266:13364-13369.
Receptor	Interleukin-2 receptor	Ishida, N. et al. Nucleic Acids Res. (1985) 13:7579-
		7589. / Hatakeyama, M. et al. Science (1989)
		244:551-556 / Takeshita, T. et al. Science (1992)
		257:379-382.
Receptor	platelet-derived growth factor receptor	Lee, K.H. et al. Mol. Cell. Biol. (1990) 10:2237-
	<u>-</u>	2246. / Herren, B. et al. Biochim. Biophys. Acta
		1173 (3), 294-302 (1993).
Structural	Hemoglobin	Heindell, H.C. et al. Cell (1978) 15 (1), 43-54.

FIG. 5C

HELLER EHRMAN WHITE & MCAULIFFE LLP
Sheet 8 of 8
Title: METHODS FOR THE PRODUCTION OF REDOX
PROTEINS.
Applicant: van Rooijen et al.
Serial No. 10/032,201 Filed: December 19, 2001
Our Docket No.: 38814-351B

		Best, J.S. et al. Hoppe-Seyler's Z. Physiol. Chem. (1989) 350 (5), 563-580. / Hardison, R.C. J. Biol. Chem. (1981) 256 (22), 11780-11786.
Structural	human platelet glycoprotein Ib	Wenger,R.H. et al. Biochem. Biophys. Res. Commun. (1988) 156 (1), 389-395. / Yagi,M. et al. J. Biol. Chem. (1994) 269 (26), 17424-17427.
Structural	Plasma fibronectin	Komblihtt, A.R. et al. Proc. Natl. Acad. Sci. U.S.A. (1983) 80:3218-3222.
Structural	Spectrin	Sahr, K.E. et al. J. Biol. Chem. (1990) 265:4434-4443. / Winkelmann, J.C. et al. J. Biol. Chem. (1990) 265:11827-11832.
Structural	Tubulin	Ponstingl, H. et al. Proc. Natl. Acad. Sci. U.S.A. (1981) 78:2757-2761. / Krauhs, E. et al. Proc. Natl. Acad. Sci. U.S.A. (1981) 78:4156-4160.
Toxin	Agkisacutacin	Cheng, X. et al. Biochem. Biophys. Res. Commun. (1999) 265 (2), 530-535.
Toxin	Beta bungarotoxins	Kondo, K. et al. J. Biochem. (1978) 83:101-115.
Toxin	Crotoxin	Bouchier, C. et al. Nucleic Acids Res. (1988) 16 (18), 9050.
Toxin	Mojave toxin	John, T.R. et al. Gene (1994) 139:229-234.
Toxin	venom protein C9S3	Rowan, E.G. et al. Nucleic Acids Res. (1990) 18:1639. / Joubert, F.J. and Viljoen, C.C. Hoppe- Seyler's Z. Physiol. Chem. (1979) 360:1075-1090.
Miscellaneous	Inhibin	Forage, R.G. et al. Proc. Natl. Acad. Sci. U.S.A. (1986) 83:3091-3095.
Miscellaneous	Monellin	Frank, G. and Zuber, H. Hoppe-Seyler's Z. Physiol. Chem. (1976) 357:585-592.
Miscellaneous	mRNA capping enzyme	Niles, E.G. et al., J. Virology (1986) 153:96-112.
Miscellaneous	Soybean insulin-binding protein si30	Barbashov, S.F. et al. Bioorg. Khim. (1991) 17:421-423.

FIG. 5D